TOBACCO INDUSTRY RESEARCH COMMITTEE
350 FIFTH AVENUE NEW YORK 1, N. Y.

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Renewal Application for Research Grant

Date: October 10, 1955

1. Name of Investigator: Frederick J. Stare, Ph.D., M.D., and Robert P. Geyer, Ph.D.

2. Title: Professor of Nutrition and Assistant Professor of Nutrition, respectively.

3. Institution & Address: Department of Nutrition, Harvard School of Public Health
1 Shattuck Street, Boston 15, Massachusetts

4. Project or Subject: Continuation of experimental studies of the possible carcinogenic action of cigarette smoke condensate using emulsions of this material intravenously in rats and mice.

5. Detailed Plan of Procedure (Use reverse side if additional space is needed):

Cigarette smoke condensate obtained from the Ecusta Paper Corporation will be rendered free of toluene by means of a vacuum system employing liquid nitrogen. Some of this material will be used in an emulsified form intravenously in rats and mice. Comparable animals will receive tar-free emulsions which will contain an amount of nicotine comparable to that found in the tar emulsion. If possible, the use of graded doses of tar or nicotine to build up tolerance in the animals will be avoided. Two slow injection machines are now available in case it becomes necessary to infuse the animals over a longer period of time than can be obtained with a hand syringe.

Some of the toluene-free condensate will be rendered nicotine-free, if possible. Although any procedure used for this purpose might change the composition of the tobacco tars somewhat, it would appear worthwhile if nicotine toxicity proves a continued problem. Some discussion of this problem was carried on recently with members of the Ecusta Paper Corporation.

The animals used will be Sprague-Dawley male and female albino rats, and C_3H and DBA-1 mice. Additional strains of mice will be used as warranted. The animals will be maintained on stock ration except for a few groups which will be fed synthetic ration. Constant examinations for tumors will be made and autopsies will be done on the animals.

Some time will be expended to improve existing emulsification equipment. This is thought worthwhile because of the physical characteristics of the tars which make emulsification difficult

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6. Budget Plan:

Salaries & Pensions	$6,390
Expendable Supplies	4,000
Permanent Equipment	500
Overhead 25%	2,973
Other Development equipment for homogenizing tars.	1,000
Total	$14,863

7. Anticipated Duration of Work:

This is really the second year of exploratory research. At the end of this year, we expect to know if this technique is worth pursuing on this problem.

8. Facilities and Staff Available:

Facilities: The Department of Nutrition has seven ~~wk~~ well-equipped laboratories and is active in a great variety of biological researches including cancer.

Staff: Staff, technical assistants, and research students number 65-70 individuals per year. The ~~xxx~~ senior staff includes, besides the two investigators listed on this application, Drs. J. Mayer, D. M. Hegsted, T. B. VanItallie, S. B. Andrus, S. Gershoff, and M. Trulson. All of the staff are available for consultation. It might be mentioned that the department has its own ~~ff~~ full-time pathologist (Dr. Andrus) and laboratory for pathology.

9. Additional Requirements:

none

10. Additional Information (Including relation of work to other projects and other sources of supply):

This research is related to current researches in this laboratory on cancer of the ~~bxxx~~ breast.

If these researches should turn out to be negative, in our opinion, they might constitute experimental evidence that tobacco tars have little direct relation to cancer of the lung. If the results should be positive it should be possible to fractionate the tars and see what components are involved. Procedures might then be designed for the removal of the offending substance if one is found.

No other funds have been requested for support of this project.

Signature s/ Frederick J. Stare
Director of Project

Business Officer of the Institution

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